DELTA DESIGN
INC.

9307 Thru 9310C

INSTRUCTION MANUAL

DELTA DESIGN, INC.
5775 Kearny Villa Rd.
San Diego, California 92123
(619) 292-5000
TWX: (910) 335-1215

HI-LO PROGRAMMER
9307 THRU 9310C

DELTA DESIGN INC
5775 KEARNY VILLA ROAD, SAN DIEGO, CALIFORNIA - TEL (714) 292-5000 - TWX: (910) 335-1215 - CABLE: DELTA
01-78

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Delta Design, Inc.
5775 Kearny Villa Rd.
San Diego, CA 92123

Printed in U.S.A.

Models 9307, 9308, 9309, 9310

HI-LO PROGRAMMER
OPERATING & INSTRUCTION MANUAL

Description:

The Delta Design Model 9307, 9308, 9309 or 9310 Hi Lo Programmer is an accessory device that allows automatic temperature step programming between two selected temperatures for Delta Design programmable chambers, with solid state controllers.

Separate timers, adjustable between 0 and 60 hours and Temperature Set Point Controls are provided for two separate temperature-time combinations. The Hi-Lo Programmer has an additional timer adjustable up to 24 hours which automatically returns the temperature in the chamber to ambient after the pre-selected period of time has elapsed. Provisions are made at the rear of the unit to incorporate the null detector circuit available in Delta chambers which cause the high and low timers to operate only after the chamber has reached the pre-selected temperatures. This feature insures that the heat up or cool down time is ignored by the Heat and Cool Timers.

A POWER light indicates when power is applied to the unit and a light labeled TIME indicates when the Cool or Heat Timer is running. The TIME light will not indicate during the 'heat up' or 'cool down' period for a Delta chamber incorporating the null detector circuit in its controller.

A Hold Switch is provided on the front to disable the 24 hour timer, enabling the unit to run continuously for periods greater than 24 hours. The Programmer is turned on by either placing the Hold Switch to the hold position or turning the 24 hour timer to a position other than off. The Programmer will automatically turn off, the ambient potentiometer will be connected via the program cable to the program jack of the temperature chamber controller, when the 24 hour timer has completed its preset time and the Hold Switch is not placed in the Hold position. Interruption of line power or completion of the 24 hour timer cycle results in programming the chamber temperature to ambient.

NOTICE: The two terminals of the null detector terminal board located on the rear of the HI-LO Programmer must either be jumpered together or connected to the null detector contacts of the Delta chamber (which are the only chambers incorporating a null detector circuit). The HEAT and COOL timers cannot run while these terminals are open circuited.

Interconnections:

Connect the power cord of the Hi-Lo Programmer to a source of 120 volt 60 cycle single phase power. Connect the programmer cable between the programmer jack located on the rear of the Hi-Lo Programmer and the program input receptacle of the solid state controller of the temperature chamber which is located either on the controller front panel or the rear of the temperature chamber. If the controller and the temperature chamber incorporates the null detector circuit, connect the supplied cable between the null detector contacts on the rear of the temperature chamber and the null detector contacts on the rear of the Hi-Lo Programmer, removing the jumper normally supplied on the contacts of the Programmer. These two sets of connections are the only necessary connections between the programmer and the controller of the temperature chamber.

OPERATION:

1. Set the Mode Switch of the Temperature Chamber Controller to the PROGRAM POSITION.

2. Set the desired high and low temperature on the High and Low Temperature Set Point controls of the Hi-Lo Programmer.

3. Select the time the Temperature Chamber is to remain at the temperature setting of the cool set point control and set on the cool timer.

4. Set the desired time at the high temperature on the heat timer. The timers are set by loosening the thumb screw located at the bottom of the dial and adjusting the red time selector mechanism to the desired time. Tighten the thumb screw to complete the setting procedure.

5. Turn the POWER, HEAT & COOL switches of the temperature chamber to the ON position.

6. Select the desired operating period on the 24 hour timer or place the hold switch to the HOLD position for continuous operation.

The Programmer will select the cooling mode of operation first and will be seen to energize the COOL lamp first. The time light will illuminate if the null detector contacts have been jumpered on the rear of the Hi-Lo Programmer (no null detector circuit incorporated in the temperature controller) or will remain extinguished until the temperature chamber has reached the selected temperature of the cool temperature set point control as set on the Hi-Lo Programmer. The cool light and timer set point combination will always be selected first. Any temperature within the range of the chamber may be selected on the Cool Set Point Control and is not limited to <u>cooling.</u> The same selection capability applies to the Heat Set Point Control and so gives the capability of going first to a high temperature and then to a low temperature if so desired.

The temperature that the chamber goes to after the 24 hour timer has completed its selected time or when power is removed from the Hi-Lo Programmer, is determined by the setting of the Ambient potentiometer located on the back panel of the Hi-Lo Programmer. This potentiometer is a 500 ohm panel mounted 20 turn trimpot and has a capability of placing the temperature chamber at any temperature within its range when so adjusted. When shipped, the ambient adjustment is factory set to bring the chamber temperature to approximately 75°F upon the removal of power or completion of the 24 hour timing cycle. Different temperatures may be selected for the ambient set point if desired. Turning the ambient potentiometer adjustment screw clockwise increases the temperature inside the chamber while turning the adjustment counter-clockwise lowers the temperature in the chamber for the ambient condition.

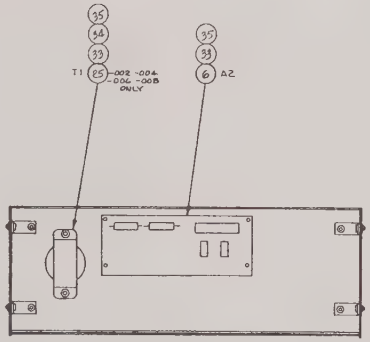
Theory of Operation:

The circuit in the Hi-Lo Programmer consists basically of three separate potentiometers connected via the contacts of reed relays to the program output jack. The temperature in a Delta Design Solid State Controller - Programmable Chamber is selected by the resistance connected to its program input. The Hi-Lo Programmer has the capability of driving the temperature chamber to three different temperatures corresponding to the settings of the three potentiometers associated with the Hi-Lo Programmer.

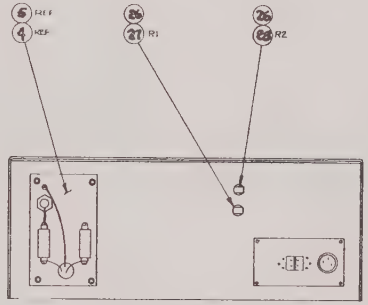
The Hi-Lo Programmer incorporates three different timers. Two of them are 60 hour reset timers while the third is a 24 hour timer. The two 60 hour reset timers control the period of time the programmer will remain in the cool or heat modes. The Hi-Lo Programmer circuit utilizes a relay flip-flop system to maintain the heat or cool state of operation. Two reed relays are utilized to connect the cool temperature set potentiometer and the heat temperature set potentiometer to the program output connector when the cool or heat mode of operation is selected. A third reed relay connects the ambient potentiometer to the program output when neither the heat or cool relay is energized. The ambient potentiometer will consequently be connected to the program output whenever power is removed from the Hi-Lo Programmer system. This power removal may result from a disconnection of the power plug from the source of 120 volt AC 60 cycle power or upon completion of the selected time period on the 24 hour timer providing the hold switch is not in the 'hold' position. The COOL or HEAT timer is energized depending upon the state of the relay flip-flop. The timers will only operate if a connection is made between the two points on the null detector terminal board. The timers require a complete circuit between the two points on the null detector terminal board for the timer to actually time even though the HEAT or COOL mode of operation is selected.

Maintenance:

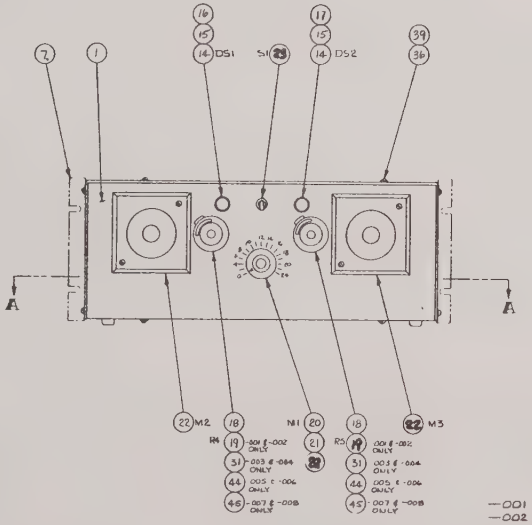
Ordinarily, no maintenance should be required for the Hi-Lo Programmer. Access to the inside of the equipment is obtained by removing the screws from the front, side and rear panels. After the screws projecting into the wrap around portion of the case are removed, the case may be slid up and removed from the programmer leaving the front panel and rear panel connected to the base.

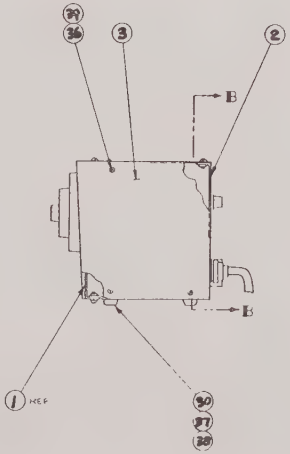


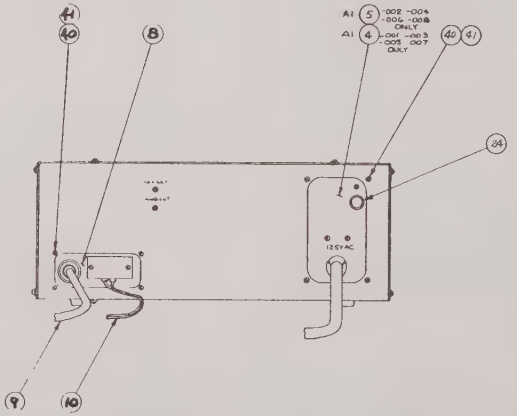
SECTION A A



SECTION B B







-001 ASSY IS MODEL 9307C 120V
-002 ASSY IS MODEL 9307C 240V
-003 ASSY IS MODEL 9307F 120V
-004 ASSY IS MODEL 9307F 240V
-005 ASSY IS MODEL 9308C 120V
-006 ASSY IS MODEL 9308C 240V
-007 ASSY IS MODEL 9308F 120V
-008 ASSY IS MODEL 9308F 240V

P/L IS 'A' SIZE

⚠ FINISH (IF APPLICABLE)

⚠ MATL (IF APPLICABLE)

NOTES: UNLESS OTHERWISE SPECIFIED

DELTA DESIGN INC.

HI-LO PROGRAMMER
MODEL 9307 & 9308
TOP ASSY

SIZE E

1640481

SCALE FULL

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DELTA DESIGN INC. 5725 KEARNY VILLA RD. SAN DIEGO, CA. 92123

ITEM NO	ASSY QTY -001	-002	-003	-004	SIZE	DWG. NUMBER	PART DESCRIPTION	MFG.& MFG. PART NO	STOCK OR PART NO
00	X				E	1640481	HI-LO PROGRAMMER TOP ASSY 9307C 120V	(1)	1640481-001
00		X			E	1640481	HI-LO PROGRAMMER TOP ASSY 9307C 240V		1640481-002
00			X		E	1640481	HI-LO PROGRAMMER TOP ASSY 9307E 120V		1640481-003
00				X	E	1640481	HI-LO PROGRAMMER TOP ASSY 9307E 240V		1640481-004
00	REF		REF		C	1635890	SCHEMATIC DIAGRAM 120V		1635890
00		REF		REF	C	1635891	SCHEMATIC DIAGRAM 240V		1635891
00					C	1638008	SCHEMATIC DIAGRAM 208V (OPTIONAL)		1638008
00	REF				A	2635889	WIRE LIST		2635889
00									
01	1	1	1	1	D	1640485	PANEL, FRONT		1640485-101
02	1	1	1	1	E	1640486	CHASSIS WELDMENT		1640486-001
03	1	1	1	1	E	1640480	COVER		1640480-101
04	1		1		C	2635058	POWER PANEL ASSY 120V		2635058
05		1		1	C	2635053	POWER PANEL ASSY 240V		2635053
06	1	1	1	1	C	2635960	P.C. BOARD ASSY A2		2635960
07	2	2	2	2	D	1640497	BRACKET MOUNTING	(OPTIONAL)	1640497-101
08	1	1	1	1	B	2635055	PANEL SIGNAL A3	(2)	2635055
09	1	1	1	1	B	1636198	PROGRAM CABLE ASSY		1636198
10	1	1	1	1	C	2635962	NULL CONTACT CABLE ASSY		2635962
11									
12									

REV	ECN	DATE	BY	APPD

NOTES

(1) E1640481-001 (MODEL 9307C 120V) IS THE "BASIC STOCKED MODEL"

(2) RETURN ITEM 2 OF P/L 2635055 TO STOCK

TITLE & MODEL NUMBER USAGE

HI-LOW PROGRAMMER MODELS 9307 AND 9308

BY	OLEJNIK	11-19-4	NEXT ASSY.
CHK	R Lamb	1-24-75	END ITEM
APPD	J. Flores		

P/L 1640481 REV SHT 01 OF 03

9

DELTA DESIGN INC. 5725 KEARNY VILLA RD. SAN DIEGO, CA. 92123

ITEM NO	ASSY -005	ASSY -006	ASSY -007	ASSY -008	SIZE	DWG. NUMBER	PART DESCRIPTION	MFG.& MFG. PART NO	STOCK OR PART NO
00	X				E	1640481	HI-LO PROGRAMMER 9308C 120V	1	1640481-005
00		X			E	1640481	HI-LO PROGRAMMER 9308C 240V		1640481-006
00			X		E	1640481	HI-LO PROGRAMMER 9308F 120V		1640481-007
00				X	E	1640481	HI-LO PROGRAMMER 9308F 240V		1640481-008
00	REF		REF		C	1635810	SCHEMATIC DIAGRAM 120V		1635810
00		REF		REF	C	1635811	SCHEMATIC DIAGRAM 240V		1635811
00					C	1638008	SCHEMATIC DIAGRAM 208V (OPTIONAL)		1638008
00	REF				A	2635889	WIRE LIST		2635889
00									
01	1	1	1	1	D	1640485	PANEL, FRONT		1640485-101
02	1	1	1	1	E	1640486	CHASSIS WELDMENT		1640486-001
03	1	1	1	1	E	1640480	COVER		1640480-101
04	1		1		C	2635058	POWER PANEL ASSY 120V		2635058
05		1		1	C	2635053	POWER PANEL ASSY 240V		2635053
06	1	1	1	1	C	2635960	P.C. BOARD ASSY A2		2635960
07	2	2	2	2	D	1640477	EJECTOR MOUNTING	(OPTIONAL)	1640477-101
08	1	1	1	1	B	2635055	PANEL SIGNAL A3	2	2635055
09	1	1	1	1	B	1636198	PROGRAM CABLE ASSY		1636198
10	1	1	1	1	C	2635962	NULL CONTACT CABLE ASSY		2635962
11									
12									

REV	ECN	DATE	BY	APPD

NOTES

1. E1640481-001 (MODEL 9307C 120V) IS THE "BASIC STOCKED MODEL"
2. RETURN ITEM 2 OF P/L 2635055 TO STOCK

TITLE & MODEL NUMBER USAGE

HI-LOW PROGRAMMER
MODELS 9307 AND 9308

BY	OLEJNIK	11-19-4	NEXT ASSY.
CHK	R [illegible]	1-22-85	END ITEM
APPD	J. FLORES	1/15/85	

P/L 1640481 REV SHT 1A OF 3

DELTA DESIGN INC. 5725 KEARNY VILLA RD. SAN DIEGO, CA. 92123

ITEM NO	ASSY. QTY. -005	-006	-007	-008	SIZE	DWG. NUMBER	PART DESCRIPTION	MFG.& MFG. PART NO	STOCK OR PART NO
13									
14	2	2	2	2			LAMP 120V DS1-2	SYLVANIA	1400084
15	2	2	2	2			LAMP HOLDER		1400076
16	1	1	1	1			LENS, WHITE		1400091
17	1	1	1	1			LENS, YELLOW		1400093
18	2	2	2	2			DIAL, 10 TURN		1500784
19							POT, 120V - 240V		0500018
20	1	1	1	1			TIMER, 24 HR		1400313
21	1	1	1	1			TERMINAL STRIP TS1		1400503
22	2	2	2	2			TIMER M1, M2	TEMIOR	1400302
23	1	1	1	1			SWITCH SPST S1		1400181
24	1	1	1	1			FUSE 3A		1400033
25		1		1			TRANSFORMER T1	TRIAD N68X	1400294
26	2	2	2	2			BRACKET		1500527
27	1	1	1	1			POT 500Ω R1		0500026
28	1	1	1	1			POT 20Ω R2		0500038
29	1	1	1	1			KNOB		1500279
30	4	4	4	4			FOOT		1500418
31							POT, 120V-240V		0500020
32									
33	4	6	4	6			#4-40 x 1/2 PHP-MS		6804401204

REV	ECN	DATE	BY	APPD

NOTES

TITLE & MODEL NUMBER USAGE

HI-LOW PROGRAMMER
MODELS 9307 AND 9308

BY	OLEJNIK	11-19-74	NEXT ASSY.
CHK	R Brooks 1/29/75	1-29-75	
APPD	J. Flores	1/15/75	

P/L 1640481 REV SHT 2A OF 3

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DELTA DESIGN INC. 5725 KEARNY VILLA RD. SAN DIEGO, CA. 92123

ITEM NO	ASS'Y QTY. -001	-002	-003	-004	SIZE	DWG. NUMBER	PART DESCRIPTION	MFG.& MFG. PART NO	STOCK OR PART NO
13									
14	2	2	2	2			LAMP 120V DS1-2	SYLVANIA	1400084
15	2	2	2	2			LAMP HOLDER		1400076
16	1	1	1	1			LENS, WHITE		1400091
17	1	1	1	1			LENS, YELLOW		1400093
18	2	2	2	2			DIAL, 10 TURN		1500784
19	2	2					POT, 120V - 240V		0500018
20	1	1	1	1			TIMER, 24 HR		1400313
21	1	1	1	1			TERMINAL STRIP TS1		1400503
22	2	2	2	2			TIMER M1, M2	TENOR	1400302
23	1	1	1	1			SWITCH SPST S1		1400181
24	1	1	1	1			FUSE 3A		1400033
25		1		1			TRANSFORMER T1	TRIAD N68X	1400294
26	2	2	2	2			BRACKET		1500527
27	1	1	1	1			POT, 500 Ω R1		0500026
28	1	1	1	1			POT 20 Ω R2		0500038
29	1	1	1	1			KNOB		1500279
30	4	4	4	4			FOOT		1500418
31			2	2			POT, 120V-240V		0500020
32									
33	4	6	4	6			#4-40 X 1/2 PHP-MS		6804401204

REV	ECN	DATE	BY	APPD

NOTES

TITLE & MODEL NUMBER USAGE

HI-LOW PROGRAMMER
MODELS 9307 AND 9308

			NEXT ASSY.
BY	OLEJNIK		
CHK	[illegible]	1-29-75	
APPD	J. FLORES	1/16/75	

P/L 1640481 REV SHT 2 OF 3

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DELTA DESIGN INC. 5725 KEARNY VILLA RD. SAN DIEGO, CA. 92123

ITEM NO	ASSY QTY. -001	-002	-003	-004	SIZE	DWG. NUMBER	PART DESCRIPTION	MFG.& MFG. PART NO	STOCK OR PART NO
34	2	2	2	2			#4-40 HEX NUT		67044002-000
35	6	6	6	6			#4 LOCKWASHER SPLIT		6604010-000
36	12	12	12	12			#6-32 X 1/4 PHP-MS		6806321404
37	4	4	4	4			#6-32 X 1/2 PHP-MS		6806321204
38	4	4	4	4			#6 FLAT WASHER		66060000-000
39	12	12	12	12			#6 LOCK WASHER SPLIT		6606010-000
40	8	8	8	8			#8-32 X 3/8 PHP-MS		6808323804
41	8	8	8	8			#8 LOCKWASHER SPLIT		6608010-000
42									
43									

REV	ECN	DATE	BY	APPD	NOTES

TITLE & MODEL NUMBER USAGE

HI-LOW PROGRAMMER
MODELS 9307 AND 9308

BY	OLEJNIK	11-19-4	NEXT ASSY.
CHK	R Blank	1-24-75	
APPD	J. Flores	1/15/75	

P/L 1640481 REV SHT 3 OF 3

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DELTA DE[illegible] INC. 5725 KEARNY VILLA RD. S[illegible]IEGO, CA. 92123

ITEM	-005	-006	-007	-008	SIZE	DWG. NUMBER	PART DESCRIPTION	MFG.& MFG. PART NO	STOCK OR PART NO
34	2	2	2	2			#4-40 HEX NUT		6704400[illegible]-00
35	6	6	6	6			#4 LOCKWASHER SPLIT		6604010 -00[illegible]
36	12	12	12	12			#6-32 X 1/4 PHP-MS		6806321404
37	4	4	4	4			#6-32 X 1/2 PHP-MS		6806321204
38	4	4	4	4			#6 FLAT WASHER		66060000-00[illegible]
39	12	12	12	12			#6 LOCK WASHER SPLIT		6606010-000
40	8	8	8	8			#8-32 X 3/8 PHP-MS		6808323804
41	8	8	8	8			#8 LOCKWASHER SPLIT		6608010-00[illegible]
42									
43									
44	2	2					POT, 120V - 240V		0500006
45			2	2			POT, 120V - 240V		0500014

REV	ECN	DATE	BY	APPD	NOTES

TITLE & MODEL NUMBER USAGE

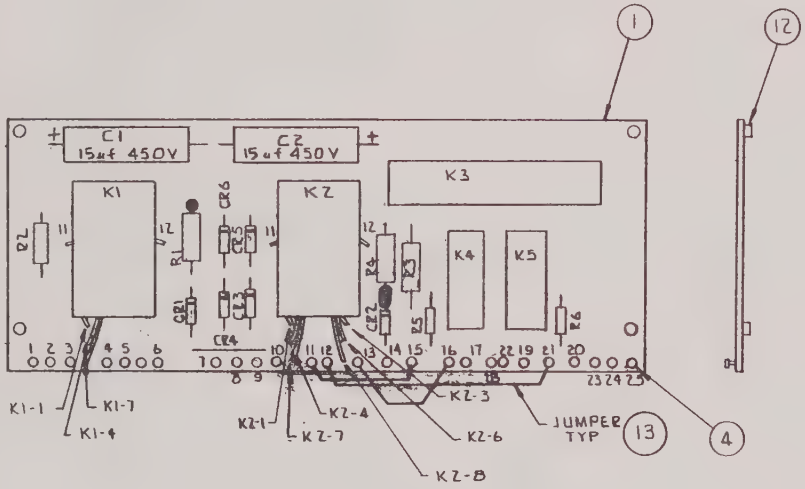
HI-LOW PROGRAMMER
MODELS 9307 AND 9308

BY	OLEJNIK	11-19-4	NEXT ASSY.
CHK	R Brodie	1/29/75	
APPD	J. Fuoss	1/15/75	

P/L 1640481 REV SHT 3A OF 3

11

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
	A	SEE ECN M1058 L.E.U. 2-9-76	9/15/76	



P/L "A" SIZE

QTY. REQ'D	NOMENCLATURE OR DESCRIPTION	CODE IDENT.	IDENTIFYING NUMBER	SPECIFICATION	MATERIAL OR NOTE	ITEM NO.

NEXT ASSY	USED ON	SERIAL NOS	DATE EFF	DWG REV LTR
E1640481	9308/9307			
~~D1635888~~	~~HI-LO 9307~~	~~1093-7-76 10A10-576~~		
APPLICATION		EFFECTIVITY		

UNLESS OTHERWISE SPECIFIED DIMENSION ARE IN INCHES TOLERANCES ON
FRACTIONS ± 1/64 DECIMALS .XX ±.010 .XXX ±.005 ANGLES ± ½°

MATERIAL:

FINISH

	BY	DATE
DESIGN	B BURGESS	
DRAFTED	B. BURGESS	7-1-72
CHECKED	Harris	1-3-73
APPROV.		
	G.ELLIS	10-9-72

PART NO 2635960

DELTA DESIGN INC.
8000 FLETCHER PKWY.
LA MESA, CALIF 92041
TEL: A/C (714) 465-4141

TITLE: PRINTED CIRCUIT ASSY
HI-LO PROGRAMMER

SIZE	CODE IDENT. NO	DRAWING NO.	REV. LTR.
C		2635960	A

SCALE 1/1 SHEET 1 OF 1

SCHEMATIC C1635890

NOTES:

BLUE CARD

12

DELTA DESIGN, INC.
5725 KEARNY VILLA RD
SAN DIEGO, CA. 92123
TEL. (714) 292-5000

NOTES:

ITEM	QTY	DRAWING NUMBER	DESCRIPTION	MANUFACT AND NO.	STK OR PART NO.	FAB CODE
00		C2635960	PRINTED CIRCUIT ASSY HI-LO		2635960	
REF		C1635890	SCHEMATIC DIAGRAM			
REF		C1635891	SCHEMATIC DIAGRAM			
REF		C1632683	ARTWORK			
01	1	C1632684	PRINTED CIRCUIT BOARD		1632684	
02	2		CAPACITOR 15 uf 400V C1 & C2		0701500-400	
03	6		DIODE IN 4004 CR1 THRU CR6		1104004	
04	25		TERMINAL E1 THRU E25		2000189	
05	1		RELAY K1, K2		1400229	
06	2		RELAY K3		1400213	
07	2		RELAY K4, K5		1400214	
08	2		RESISTOR 10Ω 3W R1, R4		5110039-007	
09	1		RESISTOR 4.7K W 5% R2		0600004	
10	1		RESISTOR 15K, 3W 5% R3		0400023	
11	2		RESISTOR 12K, 1/2W, 5% R5, R6		0301230-500	
12	4		STANDOFF		4100092	
13	A/R		WIRE 20 AWG, VINYL		7700620-999	

REVISIONS

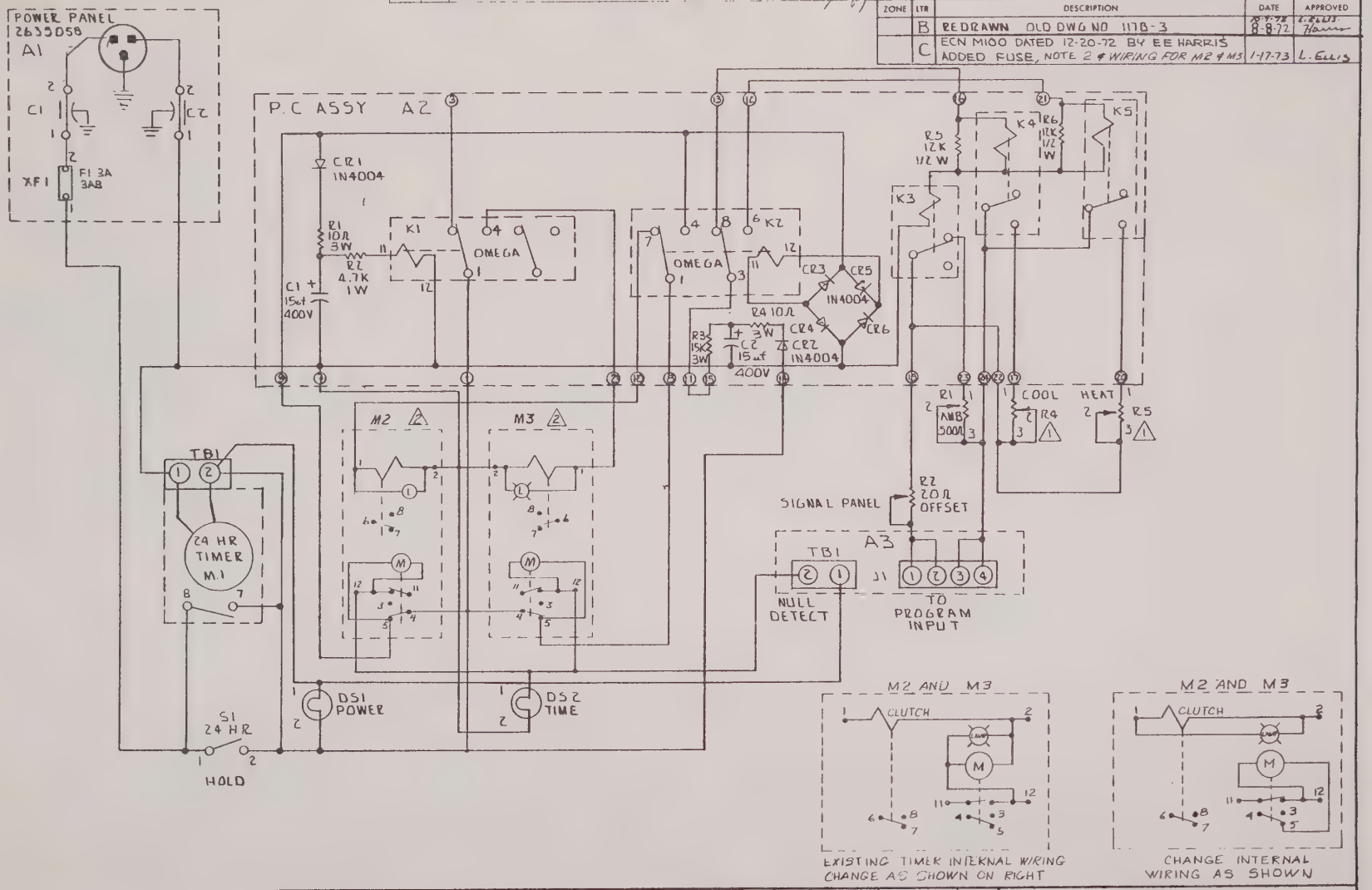
REV	DATE	BY	APPD	DESCRIPTION
A	2/9/73	LEW.		SEE ECN M1058

TITLE: PRINTED CIRCUIT ASSY HI-LO PROGRAMMER

NEXT ASSY P/N: A2635888

BY	B. BURGESS	7/25/72
CHK	Harris	1-3-73
APPD	L. Ellis	1-17-73

P/L 2635960 REV A SHT 1 OF 1



REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
	B	REDRAWN OLD DWG NO 1178-3	8-8-72	L. Ellis
	C	ECN M100 DATED 12-20-72 BY EE HARRIS ADDED FUSE, NOTE 2 # WIRING FOR M2 & M3	1-17-73	L. Ellis

2 CHANGE M2 & M3 FOR 50Hz USAGE BY ROTATING CYCLE SET SCREW TO 50~ POSITION. SCREW IS LOCATED IN REAR OF TIMER

1 RESISTANCE VALUE CHANGES WITH MODEL. SEE PARTS LIST

NOTES:

NEXT ASSY	USED ON	SERIAL NOS	DATE EFF	DWG REV LTR
E1640481	9307/9308			
2635888	9307	7073-7361 thru 10372		B

APPLICATION | EFFECTIVITY

UNLESS OTHERWISE SPECIFIED DIMENSION ARE IN INCHES
TOLERANCES ON
FRACTIONS ± 1/64 | DECIMALS .XX ± .010 .XXX ± .005 | ANGLES ± ½

MATERIAL

FINISH

	BY	DATE
DESIGN		
DRAFTED	REH	5-6-64
CHECKED		
APPROV	J M	5 6 64
	L. ELLIS	10-9-72

PART NO 1635890

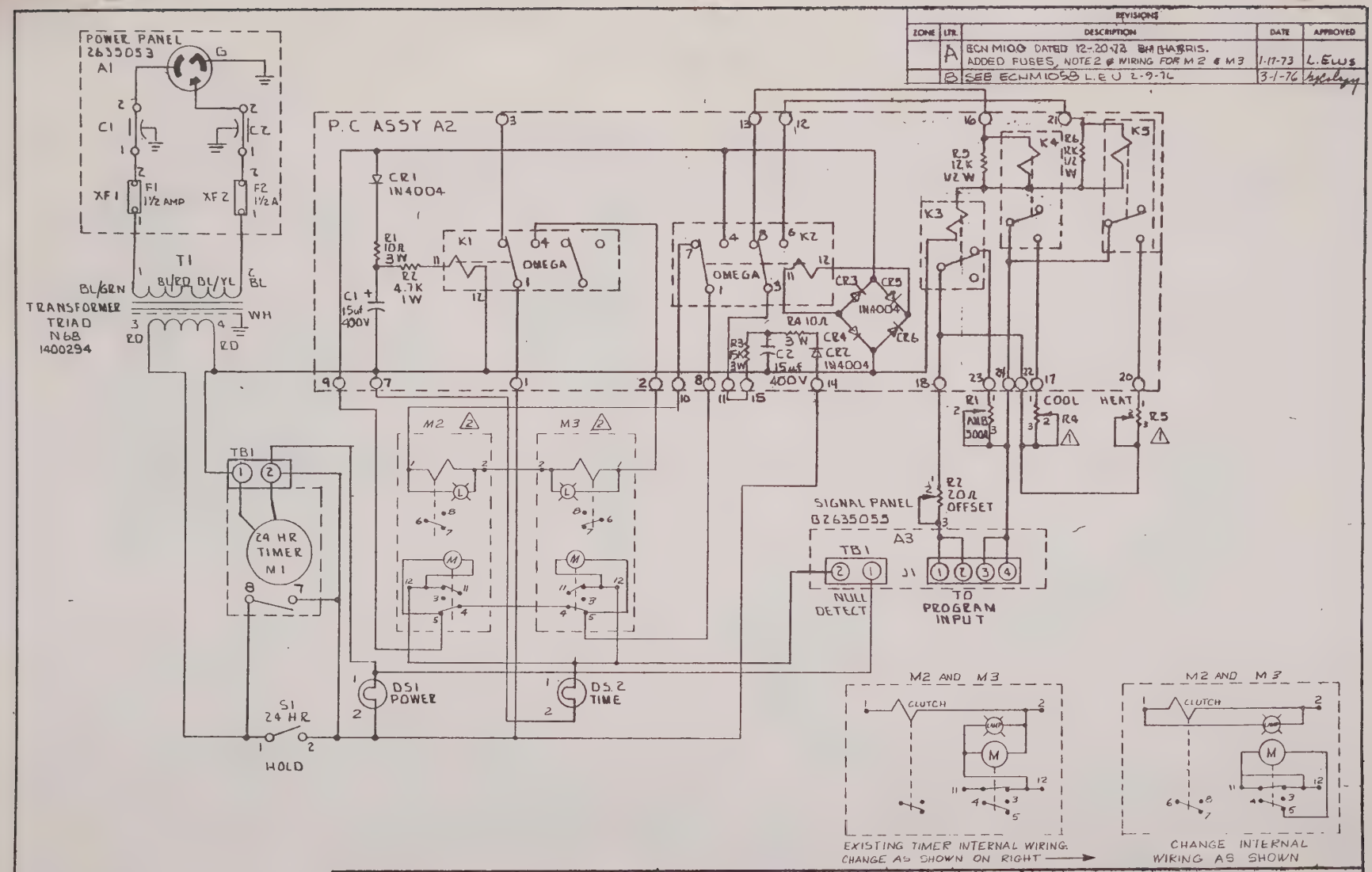
DELTA DESIGN INC.
8000 FLETCHER PKWY
LA MESA, CALIF 92041
TEL A/C (714) 465 4141

TITLE: SCHEMATIC DIAGRAM HI-LO - PROGRAMMER 120 V MODELS 9307, 9308, ~~9309, 9310~~

SIZE	CODE IDENT. NO.	DRAWING NO.	REV LTR
C		1635890	D

SCALE NONE | SHEET 1 OF 1

BLUE CARD



REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
	A	ECN M100 DATED 12-20-72 BH HARRIS. ADDED FUSES, NOTE 2 & WIRING FOR M2 & M3	1-17-73	L. ELLIS
	B	SEE ECN M1058 L.E.U 2-9-76	3-1-76	[illegible]

⚠2 CHANGE M2 & M3 FOR 50Hz USAGE BY ROTATING CYCLE SET SCREW TO 50~ POSITION. SCREW IS LOCATED IN REAR OF TIMER.

⚠1 RESISTANCE VALUE CHANGES WITH MODEL. SEE PARTS LIST.

NOTES:

NEXT ASSY	USED ON	SERIAL NOS.	DATE EFF	DWG REV LTR
E1640481	9307/9308			
~~2635088~~	9307	~~[illegible]~~		

APPLICATION — EFFECTIVITY

UNLESS OTHERWISE SPECIFIED DIMENSION ARE IN INCHES TOLERANCES ON
FRACTIONS ± 1/64 DECIMALS .XX ± .010 .XXX ± .005 ANGLES ± ½

MATERIAL:

FINISH:

PART NO 1635891

	BY	DATE
DESIGN	D. Burgess	7-24-72
DRAFTED	D. Burgess	7-24-72
CHECKED	E. HARRIS	8-6-72
APPROV	L. ELLIS	11-7-72

DELTA DESIGN INC.
8000 FLETCHER PKWY.
LA MESA, CALIF 92041
TEL: A/C (714) 465 4141

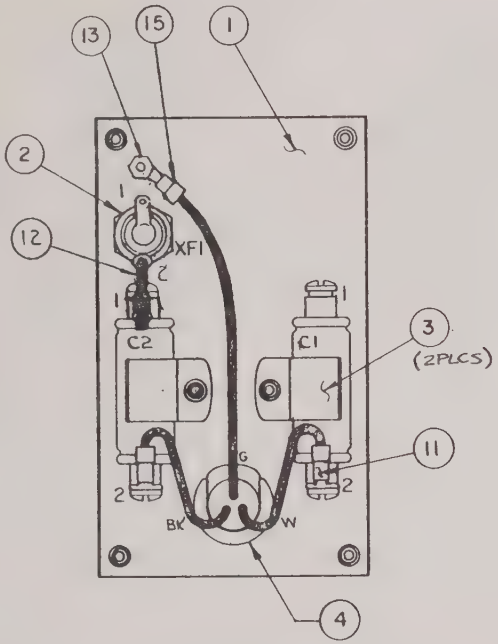
TITLE: SCHEMATIC DIAGRAM HI-LO-PROGRAMMER 240V MODELS 9307, 9308, 9309, 9310

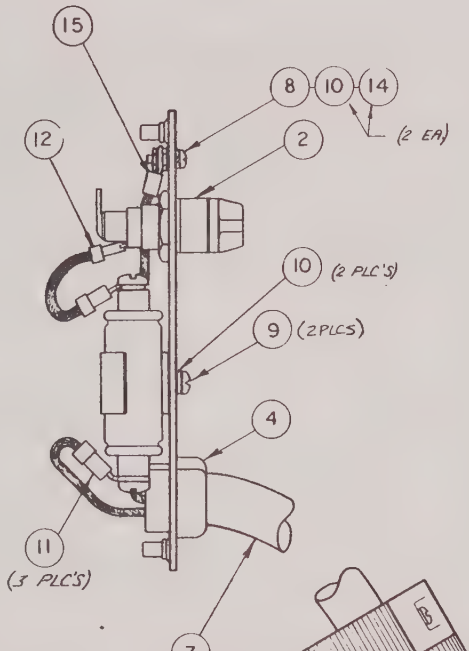
SIZE	CODE IDENT. NO.	DRAWING NO.	REV. LTR.
C		1635891	B

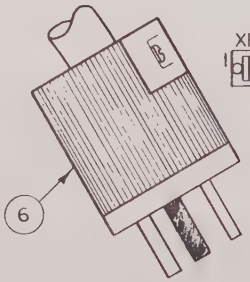
SCALE NONE SHEET 1 OF 1

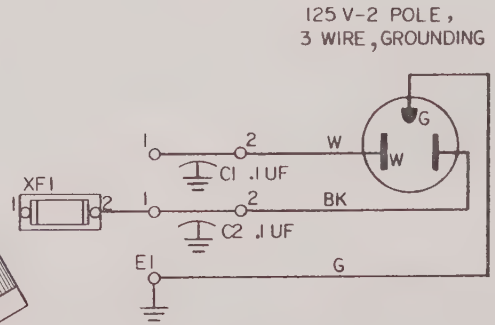
BLUE CARD

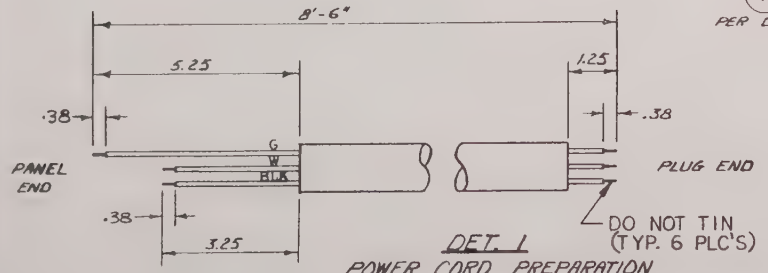
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
	A	REMOVED ITEM 5 BUTCH PLUG. P.L. AFFECTED	4-20-72	L. ELLIS 4-20-72











DET. 1
POWER CORD PREPARATION

P/L "A" SIZE

QTY REQ'D	NOMENCLATURE OR DESCRIPTION	CODE IDENT.	IDENTIFYING NUMBER	SPECIFICATION	MATERIAL OR NOTE	ITEM NO

NOTES:

MULTIPLE STANDARD USAGE

NEXT ASSY.	USED ON	SERIAL NOS	DATE EFF.	DWG. REV. LTR
APPLICATION		EFFECTIVITY		

UNLESS OTHERWISE SPECIFIED THE FOLLOWING APPLIES.
BREAK ALL SHARP EDGES .005
MAX. SURFACE ROUGHNESS 125 RMS
INDS INT CL 2B, EXT CL 2A
DIMENSIONS ARE IN INCHES
TOLERANCES ON
FRACTIONS ± 1/64 ANGLES ± ½°
DECIMALS XX ± .010
XXX ± .005

MATERIAL: —

FINISH: —

	BY	DATE
DESIGN	ELLIS	10-27-71
DRAFTED	KNAPP	2-16-72
CHECKED	[illegible]	3-6-72
APPROV	L. ELLIS	3-6-72

DO NOT SCALE DRAWING

PART NO 2635058

DELTA DESIGN INC.
8000 FLETCHER PKWY
LA MESA CALIF 92041
TEL. A/C (714) 465 4141

TITLE: POWER PANEL ASSY
125 VOLT - 2 POLE - 3 WIRE - GROUNDING

SIZE	CODE IDENT NO	DRAWING NO	REV LTR
C		2635058	A

SCALE FULL SHEET 1 OF 1

16

BLUE CARD

DELTA DESIGN, INC.
5725 KEARNY VILLA RD
SAN DIEGO, CA. 92123
TEL. (714) 292-5000

NOTES:

ITEM	QTY	DRAWING NUMBER		DESCRIPTION	MANUFACT AND NO.	STK OR PART NO.	FAB CODE
00		C2635058		POWER PANEL ASSEMBLY		2635058	26
01	1	B2635057		PANEL ASSEMBLY		2635057-003	11
02	1			FUSEHOLDER XF1		1400050	70
03	2	A2635048		CAPACITOR C1, C2		2635048	66
04	1			STRAIN RELIEF		1500077	70
~~05~~	~~2~~	~~DELETED~~		~~PLUG, BUTCH 1/2"~~		~~3600081~~	
06	1			PLUG, POWER		2000135	70
07	8.5 FT.			POWER CORD		1500394	70
08	1		*	SCREW, 6-32 x 1/2 PHP		6806321-224	90
09	2		*	SCREW, 6-32 x 3/8 PHP		6806323-824	90
10	4			LOCKWASHER, #6		6606012	90
11	3			SOLDERLESS TERMINAL (RING)		1500071	90
12	1			SOLDERLESS TERMINAL (RECEPT)		1500066	90
13	5 in.			WIRE (14 AWG)	COHU STOCK	7700614-999	90
14	2		*	HEXNUT, 6-32		6706322	90
15	1			SOLDERLESS TERMINAL (RING)		1500056	90
			*	NICKEL PLATED STEEL			

REVISIONS

REV	DATE	BY	APPD	DESCRIPTION
A	4-20-72		L ELLIS	ITEM 1 WAS 2635057-001, DELETED ITEM 5, DWG. AFFECTED

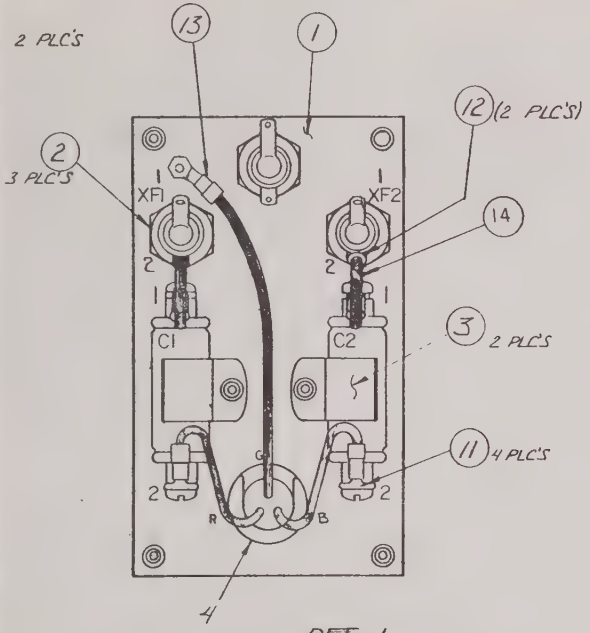
TITLE: POWER PANEL ASSEMBLY
125 VOLT - 2 POLE - 3 WIRE-GROUNDING

BY	A. H.	2-17-72
CHK	Hanna	2-18-72
APPD	L. ELLIS	5-31-72

NEXT ASSY P/L: MULTI-USAGE

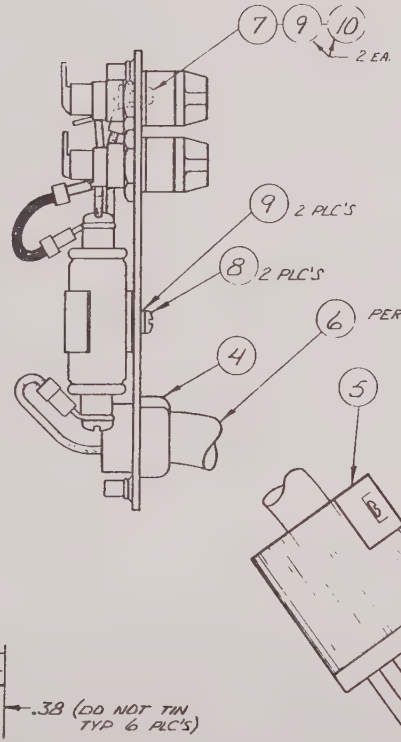
P/L 2635058 REV A SHT 1 OF 1

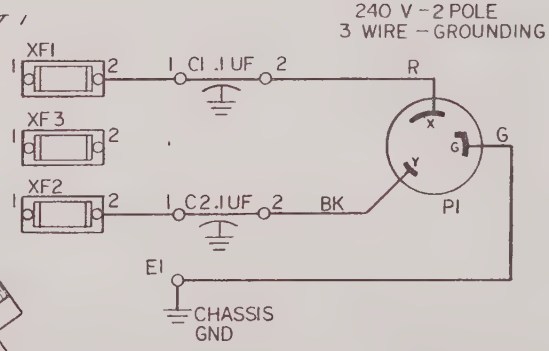
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED

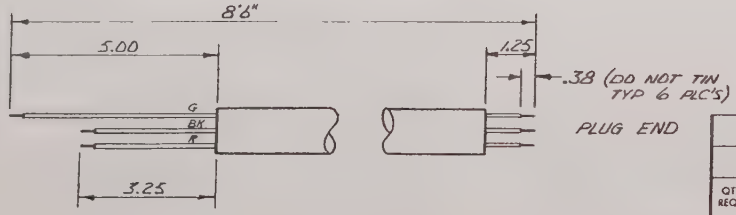


DET 1

POWER CORD PREPARATION







QTY REQ'D	NOMENCLATURE OR DESCRIPTION	CODE IDENT	IDENTIFYING NUMBER	SPECIFICATION	MATERIAL OR NOTE	ITEM NO

NOTES:

MULTIPLE USAGE				
NEXT ASSY.	USED ON	SERIAL NOS	DATE EFF	DWG REV LTR
APPLICATION		EFFECTIVITY		

UNLESS OTHERWISE SPECIFIED THE FOLLOWING APPLIES
BREAK ALL SHARP EDGES .005
MAX. SURFACE ROUGHNESS 125 RMS
THDS INT CL 2B, EXT CL 2A
DIMENSIONS ARE IN INCHES
TOLERANCES ON
FRACTIONS ± 1/64 ANGLES ± ½°
DECIMALS .XX ± .010
.XXX ± .005

MATERIAL: _____

FINISH _____

	BY	DATE
DESIGN	ELLIS	10-27-71
DRAFTED	KNAPP	3-30-72
CHECKED	Bujcss	7-6-72
APPROV	L. ELLIS	7-6-72

DO NOT SCALE DRAWING

PART NO 2635053

DELTA DESIGN INC.
8000 FLETCHER PKWY
LA MESA CALIF 92041
TEL A/C (714) 465 4141

TITLE: POWER PANEL ASS'Y
240 V. - 2 POLE - 3 WIRE GROUNDING

SIZE	CODE IDENT. NO.	DRAWING NO	REV LTR
C		2635053	

SCALE FULL SHEET 1 OF 1

BLUE CARD

DELTA DESIGN, INC.
8000 FLETCHER PKWY.
LA MESA, CALIF. 92041
TEL. (714) 465-4141

	By	Date
Drafted	R.K.	4/10/72
Pilot Run App'd.	L.ELLIS	7-6-72
Production App'd	L.ELLIS	7-6-72

Parts List 2635053 | Rev. A | Sheet 1 of 1

Description:
POWER PANEL ASSEMBLY
240 VOLT - 2 POLE - 3 WIRE GROUNDING

Next Ass'y. Parts List: MULTIPLE STD. USAGE

Item	Qty	Drawing Number		Description	Manufacturer and Part No	Stock No	Fab Code
00		C2635053		POWER PANEL ASSEMBLY		2635053	26
01	1	B2635057		PLATE ASSEMBLY, POWER		2635057-001	11
02	3			FUSE HOLDER XF1,XF2,XF3		1400050	70
03	2	A2635048		CAPACITOR C1,C2		2635048	66
04	2			STRAIN RELIEF		1500077	70
05	1			PLUG, POWER	HUBBLE #4570-C	2000224	70
06	8.5ft.			POWER CORD		1500394	70
07	1		*	SCREW, #6-32 X 1/2 PHP, MACH		6806521-224	90
08	2		*	SCREW, #6-32 X 3/8 PHP, MACH		6806323-824	90
09	4		*	LOCKWASHER, #6 SPLIT RING		6606012	90
10			*	NUT, #6-32 HEX		67076322	90
11	4			SOLDERLESS TERMINAL (RING)		1500071	90
12	2			SOLDERLESS TERMINAL (RECEPT)		1500066	90
13	1			SOLDERLESS TERMINAL (RING)		1500056	90
14	10in.			WIRE (14 AWG)	COHU STOCK	7700614-999	90

* NICKEL PLATED STEEL

Rev	Date	App'd.	Revision Description
A	1-25-73	L.ELLIS	PER ECN M127 (ITEM 05 WAS P.N. 2000136)

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